Appendix F – Mitigation Agency Field Review Packages

General Engineering Consultant Team
801 South Caroline Street
Baltimore, MD 21231

Purple Line Project
Potential Wetland and Stream Mitigation Sites
Agency Field Review

Agenda

Meeting Objective: To provide an overview of potential wetland and stream mitigation sites.

October 25, 2012

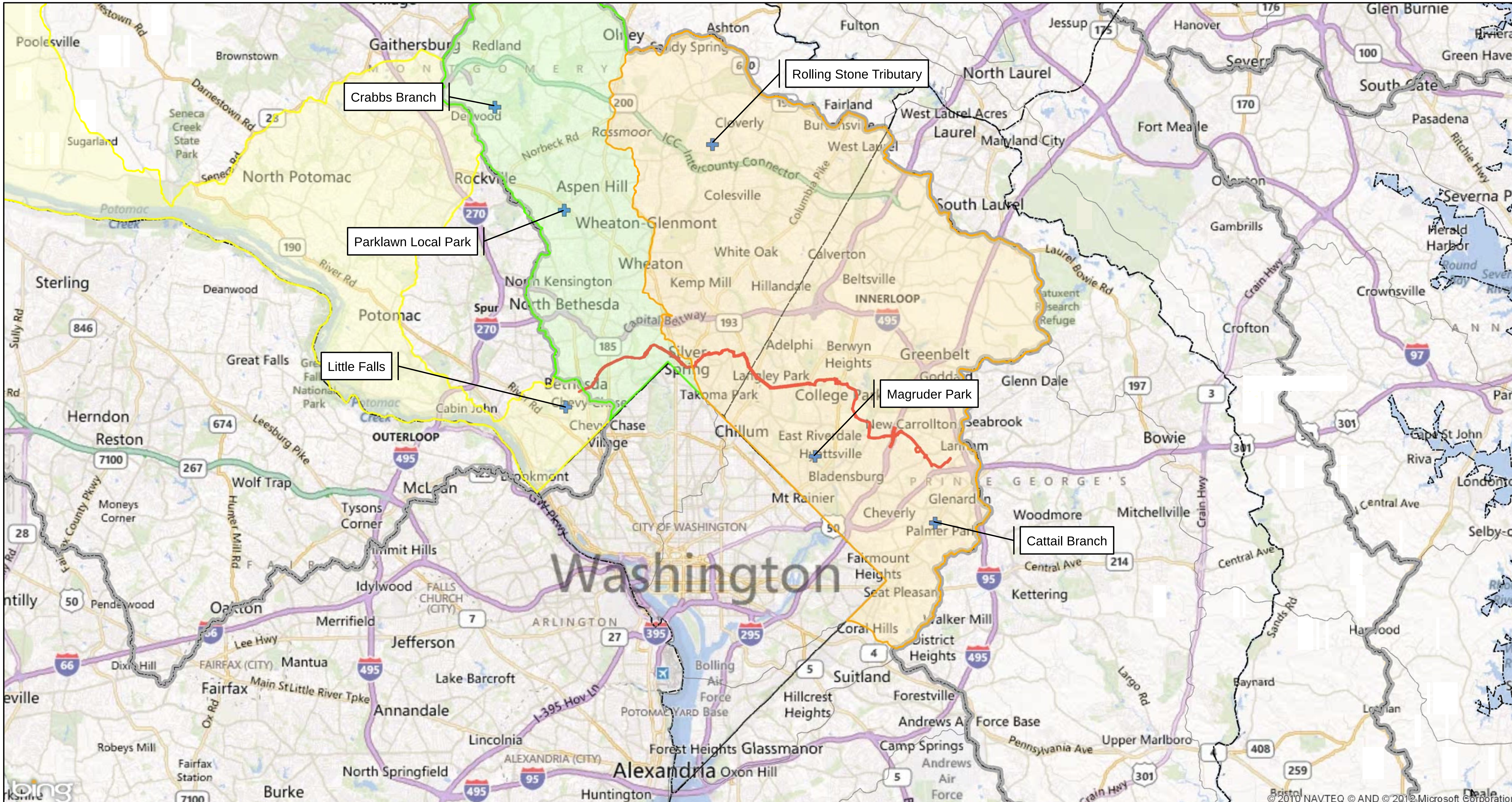
- Meet at Home Depot Parking Lot (4700 Cherry Hill Rd, College Park, MD) at 9:00 AM

  - Review of Agenda
  - Project Status

1. Cattail Branch – Wetland and Stream Mitigation Site
2. Magruder Park – Wetland and Stream Mitigation Site
3. Little Falls Branch - Optional Stream Mitigation Site
4. Pit stop for Lunch and/or bathroom
5. Parklawn Local Park – Wetland Mitigation Site
6. Crabbs Branch – Wetland and Stream Mitigation Site with Riparian Buffer Enhancement Opportunities
7. Rolling Stone Tributary – Stream Mitigation Site

- Wrap-up and Discussion of Purple Line Mitigation Sites for Conceptual Package
- Discuss dates/need for tour of privately owned parcels.

Purple Line Project						
Potential Wetland and Stream Mitigation Sites						
Site Name	**Site ID**	**Type of Mitigation**	**Site size (acres and/or L.F.)**	**Location**	**Watershed**	**Property Ownership**
Cattail Branch	AR-2 AR-3 AR-4 AR-8 AR-9	Stream	4,500 L.F.	Landover	Beaverdam Creek	Public
	AR-8	Wetland	0.70 Acres			
Magruder Park	AR-21	Stream	950 L.F.	Hyattsville	Northwest Branch	Public
	AR-21	Wetland	0.95 Acres			
Little Falls Branch	PR-1	Stream	850 L.F.	Bethesda	Potomac River	Public
Parklawn Local Park	RC-9	Wetland	4.37 Acres	Rockville	Rock Creek	Public
Crabbs Branch	RC-74	Stream	5,360 L.F.	Derwood	Rock Creek	Public
	RC-74	Wetland	3.22 Acres			
Rolling Stone Tributary	NW-49 NW-50	Stream	2,700 L.F.	Colesville	Northwest Branch	Public



Legend

✚	Potential Sites		Purple Line Corridor
	Subwatersheds		Little Falls
	MD County Boundaries		Rock Creek
	HUC8 Boundaires		Anacostia River

Purple Line
Potential Mitigation Sites
Vicinity Map

October 2012

N

1 inch = 3 miles

0 1.5 3 6 Miles

Purple Line Project
Potential Stream and Wetland Mitigation Site on Cattail Branch
(AR-2, AR-3, AR-4, AR-8, AR-9)

Existing Conditions Summary

Location Information

County: Prince George's
Watershed: Beaverdam Creek
Coordinates: 38°52'11.07"N / 76°52'42.82"W **USGS Quad:** Washington East and Lanham
Location: East and West of the intersection of Martin Luther King Jr. Hwy and Greenleaf Rd, Landover, MD
Property Ownership: Public (Maryland-National Capital Park and Planning)
Constraints: Utilities

Site Conditions

Parcel Area: 77.03 Ac **Existing Land Use:** Forest, Parkland
Landscape Position: Stream Valley **Adjacent Land Use:** Residential, Commercial
Drainage Area: 1,792 Ac
Habitat Location: Contiguous to wetland/upland forest, 25 to 100 Acres
Mapped Soils: Issue-urban land complex; Christiana-Downer-Urban land complex; Zekiah and Issue soils; Zekiah-urban land complex; Christiana-Downer complex
Mapped Wetlands: NWI and DNR wetlands mapped on site
Green Infrastructure: Not located adjacent to Green Infrastructure

This wetland creation and stream restoration site is located east and west of the intersection of Martin Luther King Jr. Highway and Green Leaf Rd. This site is associated with Cattail Branch, a tributary of Beaverdam Run. The stream corridor is forested (the downstream end is within the Kentland Park area), with adjacent residential and commercial development. Several fish barriers exist along the corridor at road and utility crossings. Stream banks are vertical and eroding, particularly along park areas where there is little riparian buffer. Severe bank and channel erosion exists downstream of the culverts under Landover Rd (AR-2) and Barlowe Rd (AR-9). An open field located at the end of E. Forest Rd currently exhibits a perched hydrology suitable for wetland creation.

Summary of Opportunities

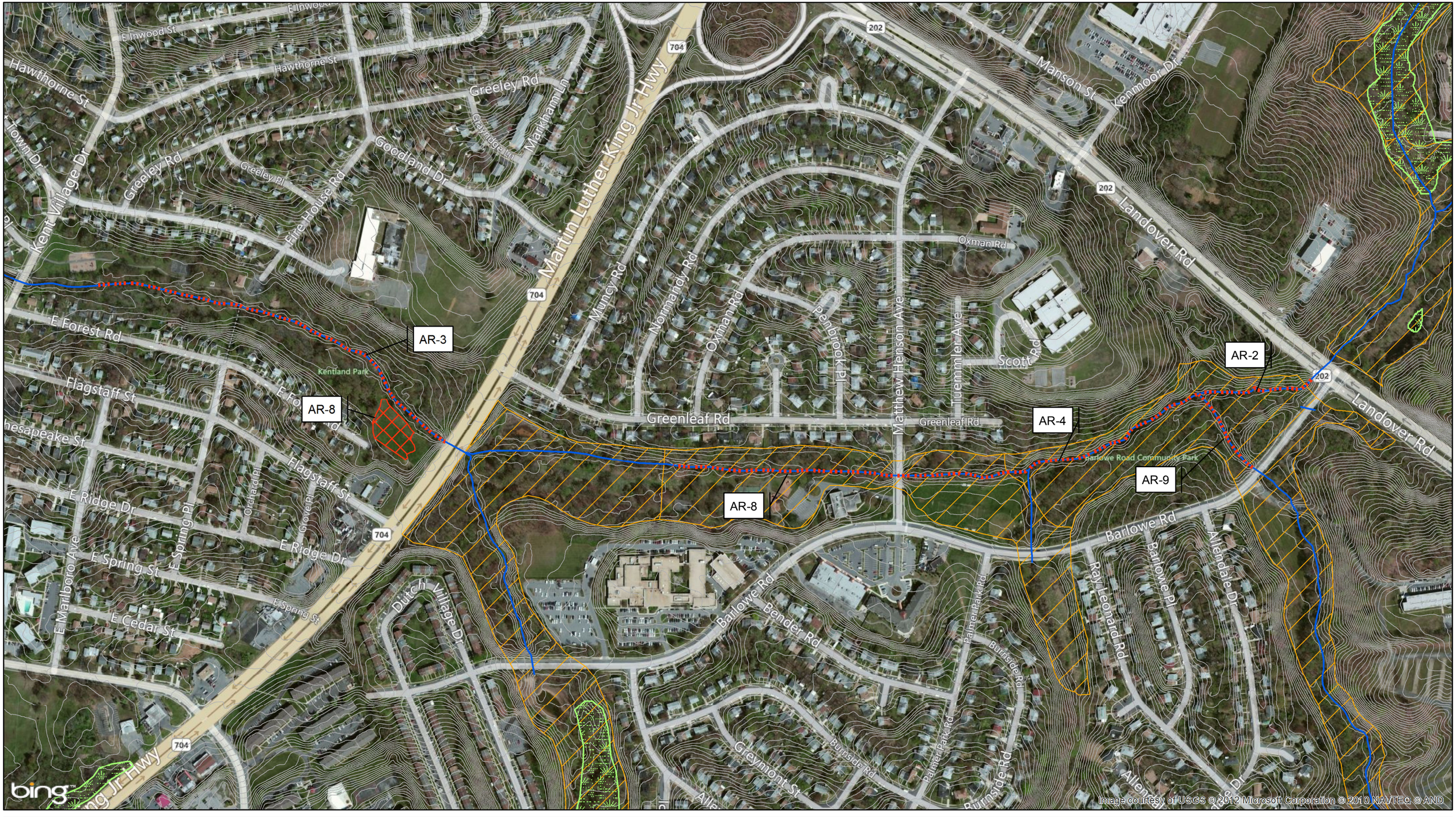
- Stream Restoration – Approximately 4,570 Linear Feet
- Wetland Creation – Approximately 0.70 Acres

Restoration Objectives

- Stream Stabilization and Floodplain Reconnection, Protection of Utilities and Park Assets
- Fish Passage
- Wetland Creation

Restoration Concept

- Installation of in-stream structures and bank grading to improve channel stability, reduce sediment loading, provide floodplain connection, and improve in-stream habitat
- Provide fish passage over barriers and through culverts to allow unrestricted access through the 1.8 miles of forested, natural stream corridor owned by M-NCPPC
- Minor grading/compaction and wetland planting in the field at the end of E. Forest Rd.



Purple Line

- Potential Stream Sites
- Streams
- 2" Contours
- Potential Wetland Sites
- DNR/NWI Wetlands
- Hydric Soils

N

1 in = 400 feet

0 200 400 800 Feet

ASSOCIATED SITE ID:

AR-2 AR-8
AR-3 AR-9
AR-4

Purple Line
Potential Mitigation Sites

Cattail Branch

October 2012

Purple Line

Potential Stream Sites
Streams
2" Contours
Potential Wetland Sites
DNR/NWI Wetlands

N

1 in = 50 feet

0 25 50 100 Feet

ASSOCIATED SITE ID:

AR-3
AR-8

Purple Line
Potential Mitigation Sites

Cattail Branch

October 2012

Purple Line Project
Potential Wetland and Stream Mitigation Site at Unnamed Tributary of Northwest Branch
(AR-21)

Existing Conditions Summary

Location Information

County: Prince George's
Watershed: Northwest Branch
Coordinates: 38°56'58.20"N / 76°57'06.55"W **USGS Quad:** Washington East
Location: South of the intersection of Hamilton St. and 40th Ave., Hyattsville, MD
Property Ownership: Public (Maryland-National Capital Park and Planning, City of Hyattsville)
Constraints: Utilities, Ball Fields

Site Conditions

Parcel Area: 17.78 Ac **Existing Land Use:** Forest
Landscape Position: Stream Valley **Adjacent Land Use:** Recreational, Residential
Drainage Area: 256 Ac
Habitat Location: Contiguous to wetland/upland forest, 25 to 100 Acres
Mapped Soils: Cordorus and Hatboro soils; Cordorus-Hatboro-Urban land complex
Mapped Wetlands: NWI and DNR wetlands mapped on site
Green Infrastructure: Located within Gap and Corridor Green Infrastructure

This site is located south of the intersection of Hamilton St and 40th Ave, within Magruder Park. This site is associated within an unnamed tributary of Northwest Branch. The stream flows through a forested corridor adjacent to recreational fields associated with Magruder Park. The stream channel exhibits some instability and moderate bank erosion due to historical straightening. An open area on the north side of an existing bioretention area appears suitable for wetland creation.

Summary of Opportunities

- Stream Restoration – Approximately 950 Linear Feet
- Wetland Creation – Approximately 0.95 Acres

Restoration Objectives

- Wetland Creation
- Stream Stabilization
- Habitat improvement
- Floodplain Reconnection

Restoration Concept

- Minimal grading to north of bioretention area to create wetlands
- Planform adjustment to return the channel to a meandering stream
- Bank grading to improve floodplain connectivity and reduce sediment loading
- Installation of in-stream structures to improve channel stability, protect existing utilities, and improve in-stream habitat

Purple Line

Potential Stream Sites
Streams
2" Contours
Potential Wetland Sites
DNR/NWI Wetlands
Hydric Soils

N

1 in = 200 feet

0 100 200 400 Feet

ASSOCIATED SITE ID:

AR-21

Purple Line
Potential Mitigation Sites

Magruder Park

October 2012

Purple Line Project
Potential Stream Mitigation Site on Little Falls Branch
(PR-1)

Existing Conditions Summary

Location Information

County: Montgomery
Watershed: Potomac River
Coordinates: 38°58'28.82"N / 77°06'11.33"W **USGS Quad:** Washington West
Location: Southwest of the intersection of Bradley Blvd. and Little Falls Pkwy., Bethesda, MD
Property Ownership: Public (Maryland-National Capital Park and Planning)
Constraints: None

Site Conditions

Parcel Area: 35.4 Ac **Existing Land Use:** Forest, Recreational
Landscape Position: Stream Valley **Adjacent Land Use:** Residential
Drainage Area: 320 Ac
Habitat Location: Contiguous to wetland/upland forest, 25 to 100 Acres
Mapped Soils: Brinklow-Blocktown channery silt loams; Gaila silt loam; Glenelg-urban land complex
Mapped Wetlands: NWI and DNR wetlands mapped on site
Green Infrastructure: Not located adjacent to Green Infrastructure

This stream site is located southwest of the intersection of Bradley Boulevard and Little Falls Parkway. The site is associated with Little Falls Branch, a tributary of the Potomac River. The stream corridor is forested, with nearby residential development and a recreational foot path (Capital Crescent Trail).

Summary of Opportunities

- Stream Restoration – Approximately 850 Linear Feet

Restoration Objectives

- Reconnect the stream to the floodplain
- Reduce bank erosion and in-stream sedimentation
- Enhance habitat conditions and the benthic and fish communities

Restoration Concept

- Installation of in-stream structures and bank grading to improve channel stability, reduce sediment loading, and provide floodplain connection
- Installation of woody debris and other types of in-stream cover and gravel channel material to enhance the benthic and fish habitats and communities

Purple Line

Potential Stream Sites
Streams
2" Contours
DNR/NWI Wetlands
Hydric Soils

N

1 in = 100 feet

0 50 100 200 Feet

ASSOCIATED SITE ID:

PR-1

Purple Line
Potential Mitigation Sites

Little Falls Branch

October 2012

Purple Line Project
Potential Wetland Mitigation Site at Parklawn Local Park
(RC-9)

Existing Conditions Summary

Location Information

County: Montgomery
Watershed: Rock Creek
Coordinates: 39°04'02.00"N / 77°06'12.10"W **USGS Quad:** Rockville
Location: Southwest of Veirs Mill Rd approximately 700 feet southeast of Aspen Hill Rd, Rockville, MD
Property Ownership: Public (Maryland-National Capital Park and Planning)
Constraints: Rock Creek Trail bike path on southwest side of soccer field

Site Conditions

Parcel Area: 79.19 Ac **Existing Land Use:** Soccer Field
Landscape Position: Stream Valley **Adjacent Land Use:** Residential
Drainage Area: 36.7 sq. mi.
Habitat Location: Contiguous to wetland/upland forest > 100 Acres
Mapped Soils: Elsinboro silt loam
Mapped Wetlands: NWI and DNR wetlands mapped within southwest corner of site
Green Infrastructure: Located within Hub Green Infrastructure

This wetland site is located along the southwest side of Veirs Mill Rd approximately 700 feet south east of Aspen Hill Rd. The open area of the parcel contains soccer fields within Parklawn Local Park on the north side of Rock Creek Trail, a paved hiker/biker trail. The area is situated topographically low and is slightly higher than the elevation of the mainstem of Rock Creek. Dominant canopy vegetation within the adjacent forests includes red maple, tuliptree, and American sycamore.

Summary of Opportunities

- Wetland Creation - Approximately 4.37 acres

Restoration Objectives

- Wetland Creation
- Floodplain Reforestation

Restoration Concept

- Minor grading to extend intercept groundwater
- Reforestation within floodplain of Rock Creek
- Wetland education
- Community outreach

Purple Line

Potential Stream Sites
Streams
2" Contours
Potential Wetland Sites
DNR/NWI Wetlands

N

1 in = 100 feet

0 50 100 200 Feet

ASSOCIATED SITE ID:

RC-9

Purple Line
Potential Mitigation Sites

Parklawn Local Park

October 2012

Purple Line Project
Potential Stream and Wetland Mitigation Site on Crabbs Branch (RC-74)

Existing Conditions Summary

Location Information

County: Montgomery **Watershed:** Rock Creek
Coordinates: 38°58'28.82"N / 77°06'11.33"W **USGS Quad:** Rockville
Location: Southeast of the intersection of Redland Rd and Crabbs Branch Way, Derwood, MD
Property Ownership: Public (Maryland-National Capital Park and Planning)
Constraints: Utilities

Site Conditions

Parcel Area: 80.44 Ac **Existing Land Use:** Forest, Field
Landscape Position: Stream Valley **Adjacent Land Use:** Residential
Drainage Area: 1,152 Ac
Habitat Location: Contiguous to wetland/upland forest > 100 Acres
Mapped Soils: Hatboro silt loam; Glenelg silt loam; Glenville silt loam; Brinklow-Blocktown channery silt loams
Mapped Wetlands: NWI and DNR wetlands mapped on site
Green Infrastructure: Hub and Gap Green Infrastructure located on site

This stream and wetland restoration site is located southeast of the intersection of Redland Rd and Crabbs Branch Way. The site is associated with Crabbs Branch, a tributary of Rock Creek. The existing hydrology and morphology of Crabbs Branch at RC-74 has been heavily influenced by anthropogenic structures such as the Crabbs Branch Regional Stormwater Pond and buried infrastructure that crosses the stream channel within the RC-74 study area. The stream channel alignment has been altered and the stream bed hardened at most utility crossings. The channel is laterally unstable as it is still adjusting to historic impacts. Channel incision is draining/has drained the wetlands. Several areas exist where existing wetlands can be extended. Riparian vegetation is dominated by invasive reed canarygrass which prevents forest from naturally regenerating on the site, and contributes to bank instability and high sediment loading.

Summary of Opportunities

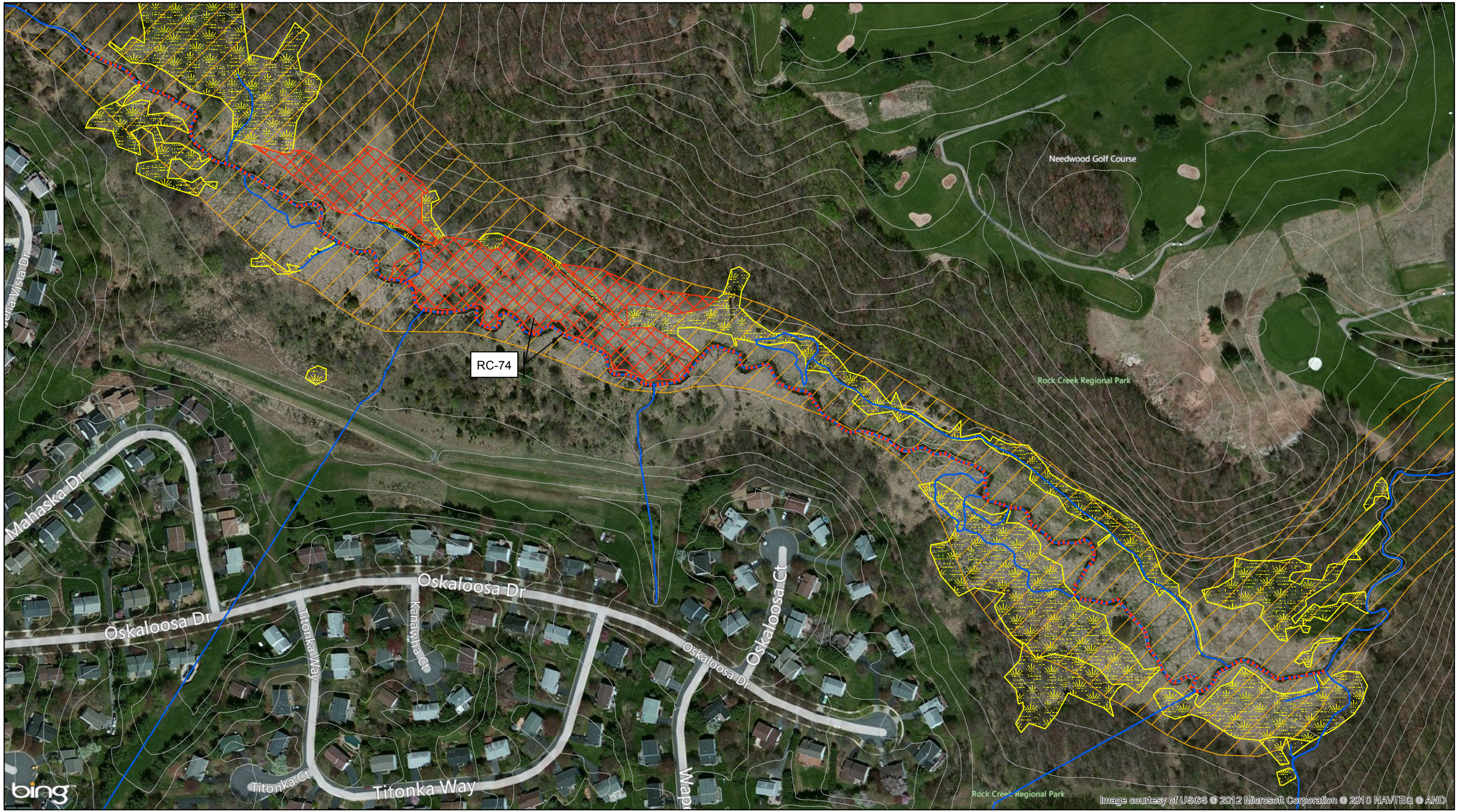
- Stream Restoration - Approximately 5,360 Linear Feet
- Wetland Restoration - Approximately 3.22 acres

Restoration Objectives

- Bank Stabilization
- Floodplain Reforestation
- Wetland Restoration and Enhancement
- Non-native Invasive Species Control
- Improvement of In-Stream and Riparian Habitat

Restoration Concept

- Minor grading to extend existing wetlands and enhancement with wetland plantings
- Vernal pool creation within the floodplain
- Removal of reed canarygrass and installation of riparian plantings
- Planform adjustment involving channel realignment and the construction of an appropriately sized channel cross section
- Installation of in-stream structures to provide channel stability and habitat diversity



Purple Line

Potential Stream Sites
Streams
2" Contours
Potential Wetland Sites
Delineated Wetlands
Hydric Soils

N

1 in = 200 feet

0 100 200 400 Feet

ASSOCIATED SITE ID:

RC-74

Purple Line
Potential Mitigation Sites

Crabbs Branch

October 2012

Purple Line Project
Potential Stream Mitigation Site at Unnamed Tributary of Northwest Branch (NW-49, NW-50)

Existing Conditions Summary

Location Information

County: Montgomery
Watershed: Northwest Branch
Coordinates: 39°05'45.27"N / 77°00'53.57"W **USGS Quad:** Kensington
Location: North of the intersection of Bonifant Rd. and Notley Rd., Silver Spring MD
Property Ownership: Public (Maryland Park and Planning)
Constraints: Utilities

Site Conditions

Parcel Area: 25.71 Ac **Existing Land Use:** Forest and Open Space
Landscape Position: Stream Valley **Adjacent Land Use:** Residential
Drainage Area: 256 Ac
Habitat Location: Contiguous to wetland/upland forest > 100 Acres
Mapped Soils: Hatboro silt loam; Glenville silt loam; Brinklow Blocktown channery silt loams; Glenelg silt loam; Gaila silt loam
Mapped Wetlands: NWI and DNR wetlands mapped on site
Green Infrastructure: Gap Green Infrastructure adjacent to site

This site is located north of the intersection of Bonifant Rd and Notley Rd, and is associated with an unnamed tributary of Northwest Branch. The stream corridor is forested, with nearby residential development, and a recreational pool within the upper part of the reach. The stream channel is disconnected from its floodplain and has far bank stability conditions that are causing bank erosion, in-stream sedimentation, and loss of property. Based on 2003 data collected by SHA, the reach has poor habitat, a poor benthic community, and a poor fish community.

Summary of Opportunities

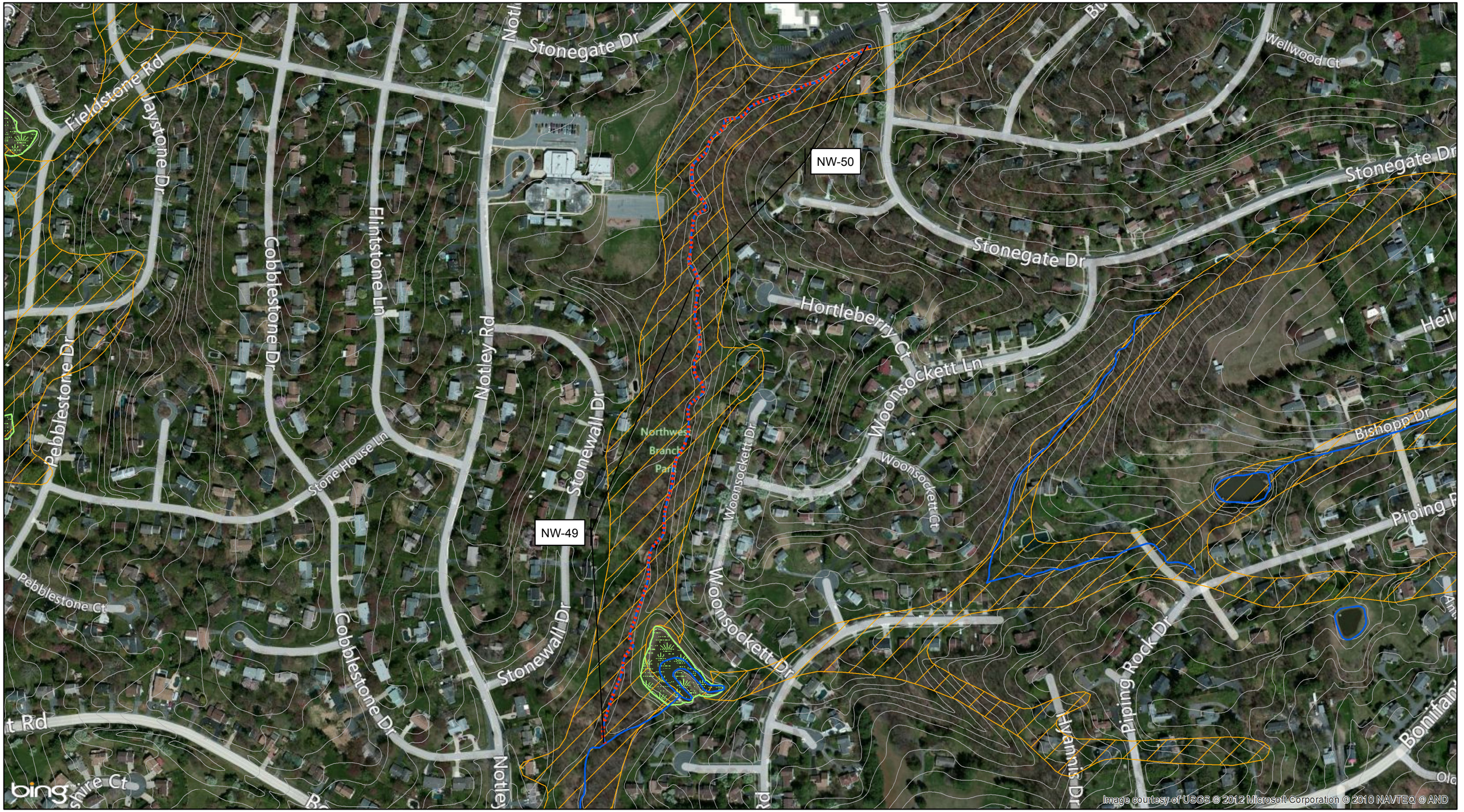
- Stream Restoration – Approximately 2,700 Linear Feet

Restoration Objectives

- Reconnecting the stream to the floodplain
- Reducing bank erosion and in-stream sedimentation
- Enhancing the riparian buffer
- Resolving utility conflicts
- Enhancing the habitat conditions and the benthic and fish communities

Restoration Concept

- Floodplain creation to provide energy dissipation of erosive flood flows, reduce erosive shear stresses, reduce channel incision, and increase infiltration and groundwater recharge
- Bank stabilization to provide energy dissipation of erosive flood flows, reduce erosive shear stresses, and reduce bank erosion and in-stream sedimentation
- Riparian buffer plantings
- Installation of in-stream structures to protect exposed utilities
- Installation of woody debris and other types of in-stream cover and gravel channel material to enhance the benthic and fish habitats and communities



Purple Line

Potential Stream Sites
Streams
2" Contours
DNR/NWI Wetlands
Hydric Soils

N

1 in = 300 feet

0 150 300 600 Feet

ASSOCIATED SITE ID:

NW-49
NW-50

Purple Line
Potential Mitigation Sites

Rolling Stone Tributary

October 2012

General Engineering Consultant Team
801 South Caroline Street
Baltimore, MD 21231

Purple Line Project
Potential Wetland and Stream Mitigation Sites
Agency Field Review 2

Agenda

Meeting Objective: To provide an overview of potential wetland and stream mitigation sites.

November 28, 2012

- Meet at Home Depot Parking Lot (4700 Cherry Hill Rd, College Park, MD) at 9:00 AM
  - Review of Agenda
  - Project Status

1. Beaverdam Creek – Stream Mitigation Site
2. Otis Street – Stream Mitigation Site
3. Brier Ditch – Wetland and Stream Mitigation Site
4. Pit stop for Lunch and/or bathroom
5. Paint Branch – Optional Stream Mitigation Site
6. Adelphi Manor Archery Range – Wetland and Stream Mitigation Site
7. Bel Pre Creek – Optional Wetland and Stream Mitigation Site

- Wrap-up and Discussion of Purple Line Mitigation Sites for Conceptual Package

Purple Line Project						
Potential Wetland and Stream Mitigation Sites						
Site Name	**Site ID**	**Type of Mitigation**	**Site size (acres and/or L.F.)**	**Location**	**Watershed**	**Property Ownership**
Beaverdam Creek	AR-1	Stream	400 L.F.	Landover	Beaverdam Creek	Private
Otis Street	AR-22	Stream	658 L.F.	Landover	Beaverdam Creek	Public/Private
Brier Ditch	AR-23	Stream	4,200 L.F.	Riverdale	Northeast Branch	Public/Private
		Wetland	1.42 Ac.			
Paint Branch	PB-93	Stream	5,900 L.F.	College Park	Northeast Branch	Public/Private
Adelphi Manor Archery Range	AR-24	Wetland	2.13 Ac.	Adelphi	Northwest Branch	Public
Bel Pre Creek	AR-102	Stream	1,500 L.F.	Glenmont	Northwest Branch	Public/Private
		Wetland	2.79 Ac.			

Bel Pre Creek

Paint Branch

Adelphi Manor Archery Range

Brier Ditch

Otis Street

Beaverdam Creek

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Purple Line

Legend

- Potential Sites
- Subwatersheds
- MD County Boundaires
- HUC8 Boundaires
- Purple Line Corridor
- Little Falls
- Rock Creek
- Anacostia River

N

1 inch = 2 miles

0 1 2 4 Miles

Purple Line Potential Mitigation Sites Vicinity Map

November 2012

Purple Line Project
Potential Stream Mitigation Site on Beaverdam Creek
(AR-1)

Existing Conditions Summary

Location Information

County: Prince George's
Watershed: Beaverdam Creek
Coordinates: 38°55'42.43"N / 76°53'39.36"W **USGS Quad:** Washington East
Location: Northwest of the intersection of Pinebrook Ave and Country Club Rd, Landover, MD
Property Ownership: Private (Washington Metro Area Transportation Authority)
Constraints: Utilities (overhead power line)

Site Conditions

Parcel Area: 19.41 Ac **Existing Land Use:** Forest
Landscape Position: Stream Valley **Adjacent Land Use:** Residential, Industrial
Drainage Area: 4,608 Ac
Habitat Location: Contiguous to wetland/upland forest, 25 to 100 Acres
Mapped Soils: Zekiah and Issue soils
Mapped Wetlands: DNR and NWI wetlands mapped on site
Green Infrastructure: Not located adjacent to Green Infrastructure

This site is located northwest of the intersection of Pinebrook Ave. and Country Club Rd. This site is associated with Beaverdam Creek at the confluence with Cattail Branch, is mostly forested, and has adjacent residential and commercial development. Barriers to fish passage exist at both the box culvert under Landover Road and at the mouth of Cattail Branch, which is a concrete-lined channel reach. There is also a significant amount of channel and bank erosion at the confluence of Cattail Branch and Beaverdam Creek.

Summary of Opportunities

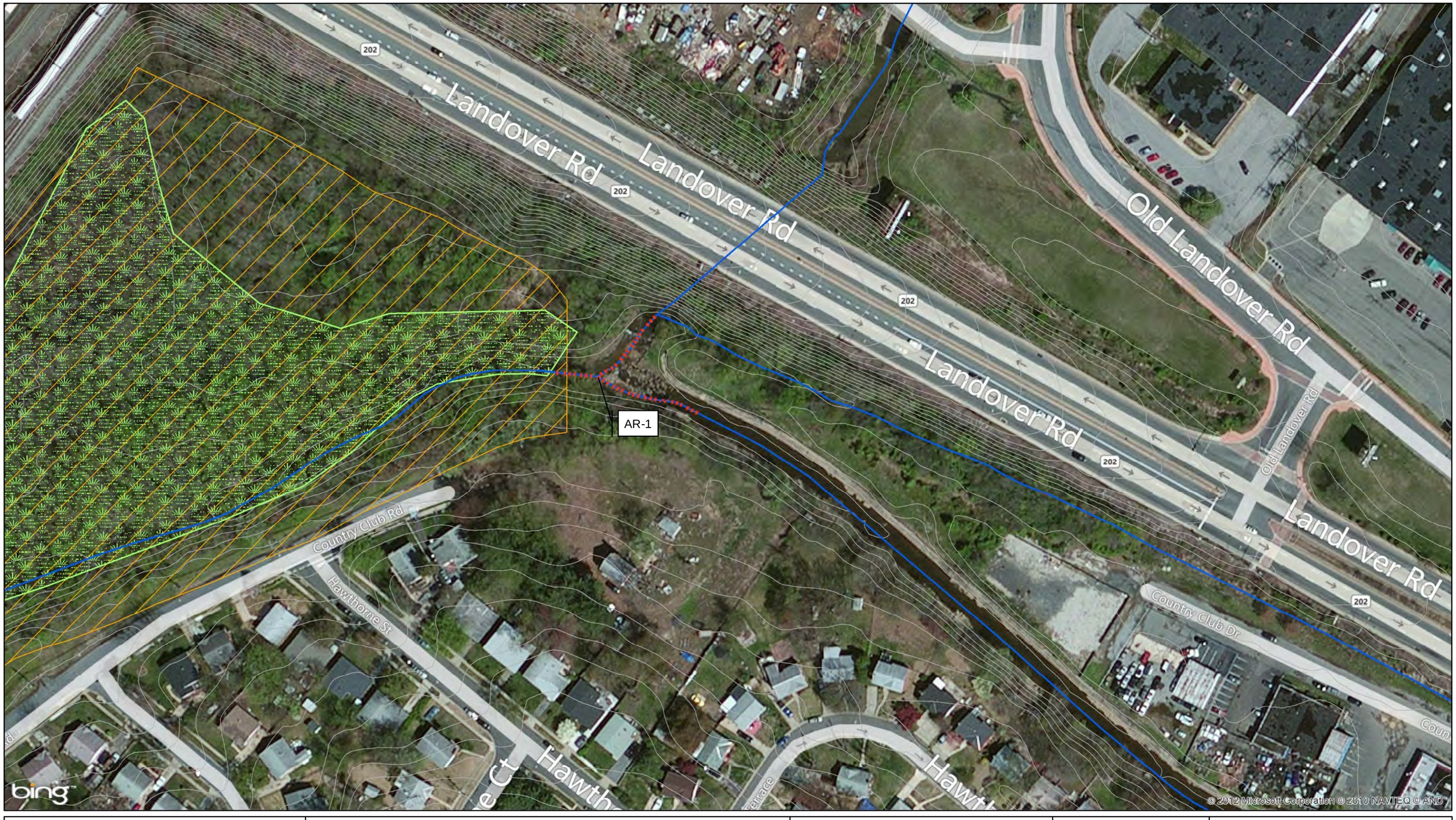
- Stream Restoration – Approximately 400 Linear Feet

Restoration Objectives

- Stream Stabilization
- Fish Passage

Restoration Concept

- Installation of in-stream structures and bank grading to improve channel stability
- Installation of structures to provide fish passage



Purple Line

Potential Stream Sites
Streams
2" Contours
DNR/NWI Wetlands
Hydric Soils

N

1 in = 100 feet

0 50 100 200 Feet

ASSOCIATED SITE ID:

AR-1

Purple Line
Potential Mitigation Sites

Beaverdam Creek

October 2012

Purple Line Project
Potential Stream Mitigation Site on Unnamed Tributary of Beaverdam Creek (AR-22)

Existing Conditions Summary

Location Information

County: Prince George's
Watershed: Beaverdam Creek
Coordinates: 38°56'10.33"N / 76°54'16.42"W **USGS Quad:** Washington East
Location: Southwest of the intersection of Otis Street, and Osborn Road, Landover, MD
Property Ownership: Public and Private
Constraints: Utilities

Site Conditions

Parcel Area: 16.04 Acres **Existing Land Use:** Forest
Landscape Position: Stream Valley **Adjacent Land Use:** Residential
Drainage Area: 64 Acres
Habitat Location: Contiguous to wetland/upland forest 25-100 Acres
Mapped Soils: Issue-Urban land complex; Christina-Downer complex; Christina-Downer-Urban land complex
Mapped Wetlands: No NWI or DNR wetlands mapped on site
Green Infrastructure: Not located adjacent to Green Infrastructure

This potential stream mitigation site is located southwest of the intersection of Otis Street and Osborn Road. This site is associated with an unnamed tributary of Beaverdam Creek, which drains into the Anacostia River. The stream corridor is forested, with adjacent residential development. The stream is a headwater channel that begins from surface drainage and a culvert near the apartment complex at 65th Avenue. The channel is deeply incised and banks have severe erosion. Sewer infrastructure (manholes) is exposed along the channel. The stream flows through an in-line stormwater pond along Otis Street, which is rapidly filling with sediment from upstream bank erosion.

Summary of Opportunities

- Stream Restoration – Approximately 650 Linear Feet

Restoration Objectives

- Stream Stabilization

Restoration Concept

- Installation of in-stream structures and bank grading to improve channel stability, reduce sediment loading, protect existing utilities, and improve in-stream habitat

Purple Line

Potential Stream Sites
Streams
2" Contours
DNR/NWI Wetlands
Hydric Soils

N

1 in = 100 feet

0 50 100 200 Feet

ASSOCIATED SITE ID:

AR-22

Purple Line
Potential Mitigation Sites

Otis Street

November 2012

Purple Line Project
Potential Wetland and Stream Mitigation Site on Brier Ditch
(AR-23)

Existing Conditions Summary

Location Information

County:	Prince George's		
Watershed:	Brier Ditch		
Coordinates:	39°58'13.93"N / 76°54'41.85"W	**USGS Quad:**	Washington East
Location:	Southeast of the intersection of Kenilworth Avenue, and Good Luck Road, Riverdale, MD		
Property Ownership:	Public and Private		
Constraints:	Unknown		

Site Conditions

Parcel Area:	46.39 Acres	**Existing Land Use:**	Forested
Landscape Position:	Stream Valley, Topographically Intermediate	**Adjacent Land Use:**	Commercial, Residential Institutional
Drainage Area (wetland):	9.68 Acres		
Drainage Area (stream):	2,688 Acres		
Habitat Location:	Contiguous to wetland/upland forest > 100 Acres		
Mapped Soils:	Codorus-Hatboro-Urban land complex; Zekiah and Issue soils; Sassafras sandy loam; Russett-Christiana complex; Issue-Urban land complex		
Mapped Wetlands:	NWI and MDNR wetlands mapped along a portion of site		
Green Infrastructure:	Located within a Green Infrastructure Corridor and Gap		

This mitigation site is located southeast of the intersection of Kenilworth Avenue and Good Luck Road. The site is associated with Brier Ditch, a tributary of the Anacostia River. The stream corridor is forested with adjacent commercial and residential development. Two schools are also adjacent to the stream reach. An abandoned parking lot within the 100-year floodplain remains wet for most of the year due to groundwater seeps in the adjacent hillside and runoff. The site presents multiple mitigation opportunities for the Purple Line project. Opportunities include wetland creation at the abandoned parking lot, and stream restoration/stabilization in Brier Ditch.

Summary of Opportunities

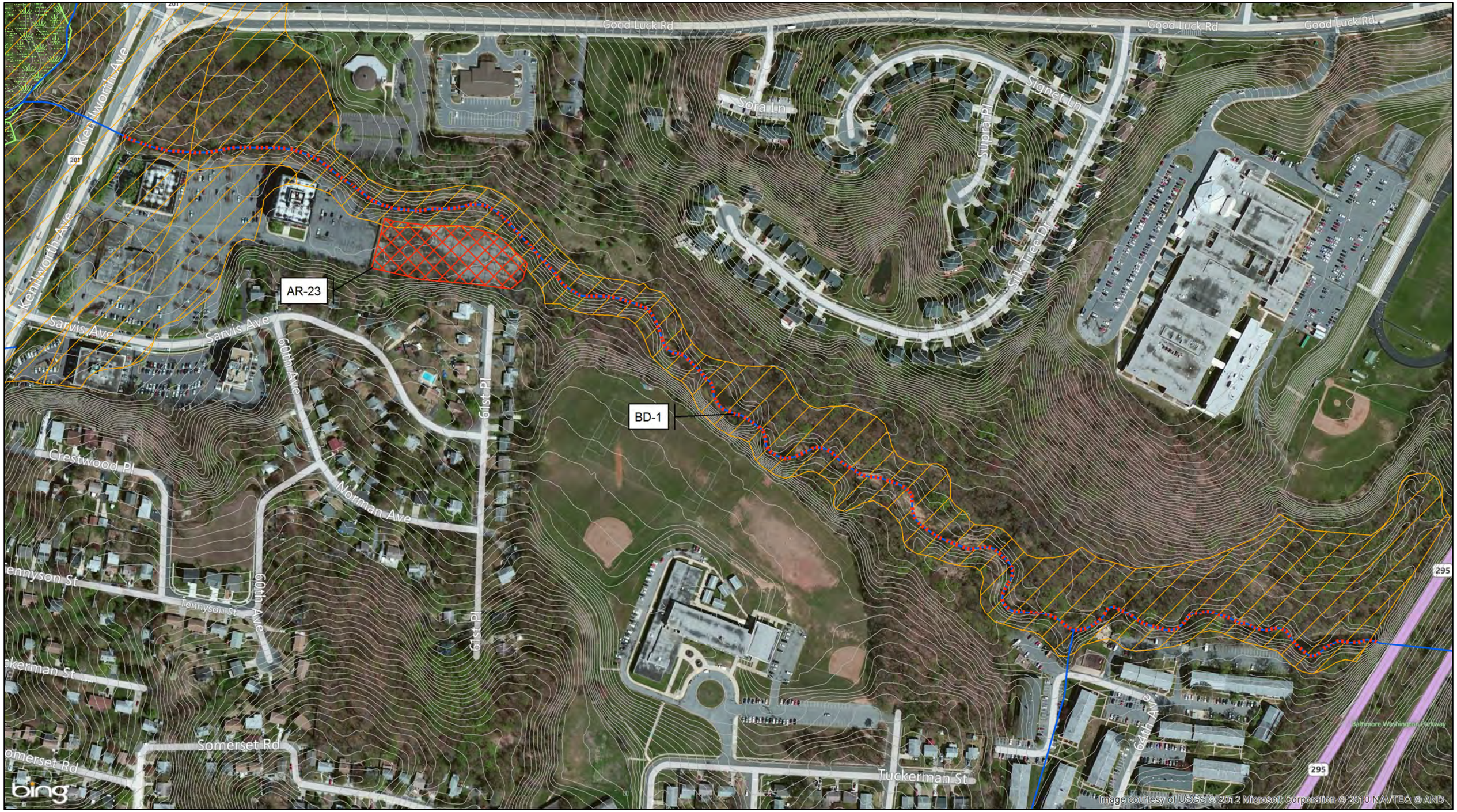
- Wetland Creation – 1.42 Acres
- Stream Restoration – 4,000 Linear Feet

Restoration Objectives

- Flood Flow Alteration – enhancing floodplain connection and storage of flood waters
- Groundwater Recharge – increased retention time will allow for surface water infiltration
- Sediment/Toxicant Retention – sediment storage with connected floodplain
- Nutrient Removal – nutrient uptake/assimilation in floodplain and wetlands
- Stream Stabilization

Restoration Concept

- Removal of pavement to create a floodplain wetland fed by groundwater seeps and runoff
- Installation of in-stream structures and bank grading to improve channel stability, reduce sediment loading, protect existing utilities, and improve in-stream habitat



Purple Line

- Potential Stream Sites
- Streams
- 2" Contours
- Potential Wetland Sites
- DNR/NWI Wetlands
- Hydric Soils

N

1 in = 250 feet

0 125 250 500 Feet

ASSOCIATED SITE ID:

BD-1
AR-23

Purple Line
Potential Mitigation Sites

Brier Ditch

November 2012

Purple Line Project
Potential Stream Mitigation Site on Paint Branch
(PB-93)

Existing Conditions Summary

Location Information

County: Prince Georges
Watershed: Paint Branch
Coordinates: 38°59'20.65"N / 76°56'01.05"W **USGS Quad:** Washington East
Location: Southeast of the intersection of Baltimore Avenue, and Paint Branch Parkway, College Park, MD
Property Ownership: Public and Private
Constraints: Utilities

Site Conditions

Parcel Area: 140.53 Acres **Existing Land Use:** Forest, Parkland
Landscape Position: Stream Valley **Adjacent Land Use:** Residential, Commercial
Drainage Area: 20,032 Acres
Habitat Location: Contiguous to wetland/upland forest > 100 Acres
Mapped Soils: Fallsington-Urban land complex; Cordorus and Hatboro soils; Codorus-Hatboro-Urban land complex; Urban land-Sassafrass complex
Mapped Wetlands: Both NWI and DNR wetlands mapped on site
Green Infrastructure: Located adjacent to Hub, Gap, and Corridor Green Infrastructure

This potential stream mitigation site is located southeast of the intersection of Baltimore Avenue and Paint Branch Parkway. This site is associated with Paint Branch, a tributary of the Anacostia River. The stream corridor is forested (the upstream section is within the Paint Branch Stream Valley Park), with adjacent residential and commercial development. The channel is wide through this section and has large sediment bars. Some of the bars are stabilizing as new bankfull floodplains, but the stream is still transporting a tremendous amount of sediment in this reach.

Summary of Opportunities

- Stream Restoration – Approximately 5,900 Linear Feet

Restoration Objectives

- Stream Stabilization and Sediment Reduction

Restoration Concept

- Installation of in-stream structures and bank grading to improve channel stability, reduce sediment loading, protect existing utilities, and improve in-stream habitat

Purple Line

- Potential Stream Sites
- Streams
- 2" Contours
- DNR/NWI Wetlands
- Hydric Soils

N

1 in = 500 feet

0 250 500 1,000 Feet

ASSOCIATED SITE ID:

PB-93A
PB-93B

Purple Line
Potential Mitigation Sites

Paint Branch

November 2012

Purple Line Project
Potential Wetland Mitigation Site at Adelphi Manor Archery Range (AR-24)

Existing Conditions Summary

Location Information

County:	Prince George's		
Watershed:	Northwest Branch		
Coordinates:	38°59'11.23"N / 76°57'47.48"W	**USGS Quad:**	Washington East
Location:	North of University Boulevard (MD 193), approximately 850 feet east of West Park Drive, Riverdale, MD		
Property Ownership:	Public		
Constraints:	Park Property		

Site Conditions

Parcel Area:	6.66 Acres	**Existing Land Use:**	Park, Forested
Landscape Position:	Topographically Intermediate	**Adjacent Land Use:**	Commercial, Residential, Forested

Drainage Area:	28.6 square miles
Habitat Location:	Contiguous to wetland/upland forest > 100 Acres
Mapped Soils:	Codorus-Hatboro-Urban land complex, frequently flooded
Mapped Wetlands:	NWI and MDNR wetlands mapped along north and east sides of site
Green Infrastructure:	Located within a Green Infrastructure Corridor

This wetland mitigation site is located north of University Boulevard (MD 193) and approximately 850 feet east of West Park Drive. The site is within the 100-year floodplain of the Northwest Branch of the Anacostia River. The stream corridor is forested with adjacent commercial and residential development. Currently the site is used as an archery range. Forested wetlands border the north and east sides of the site.

Summary of Opportunities

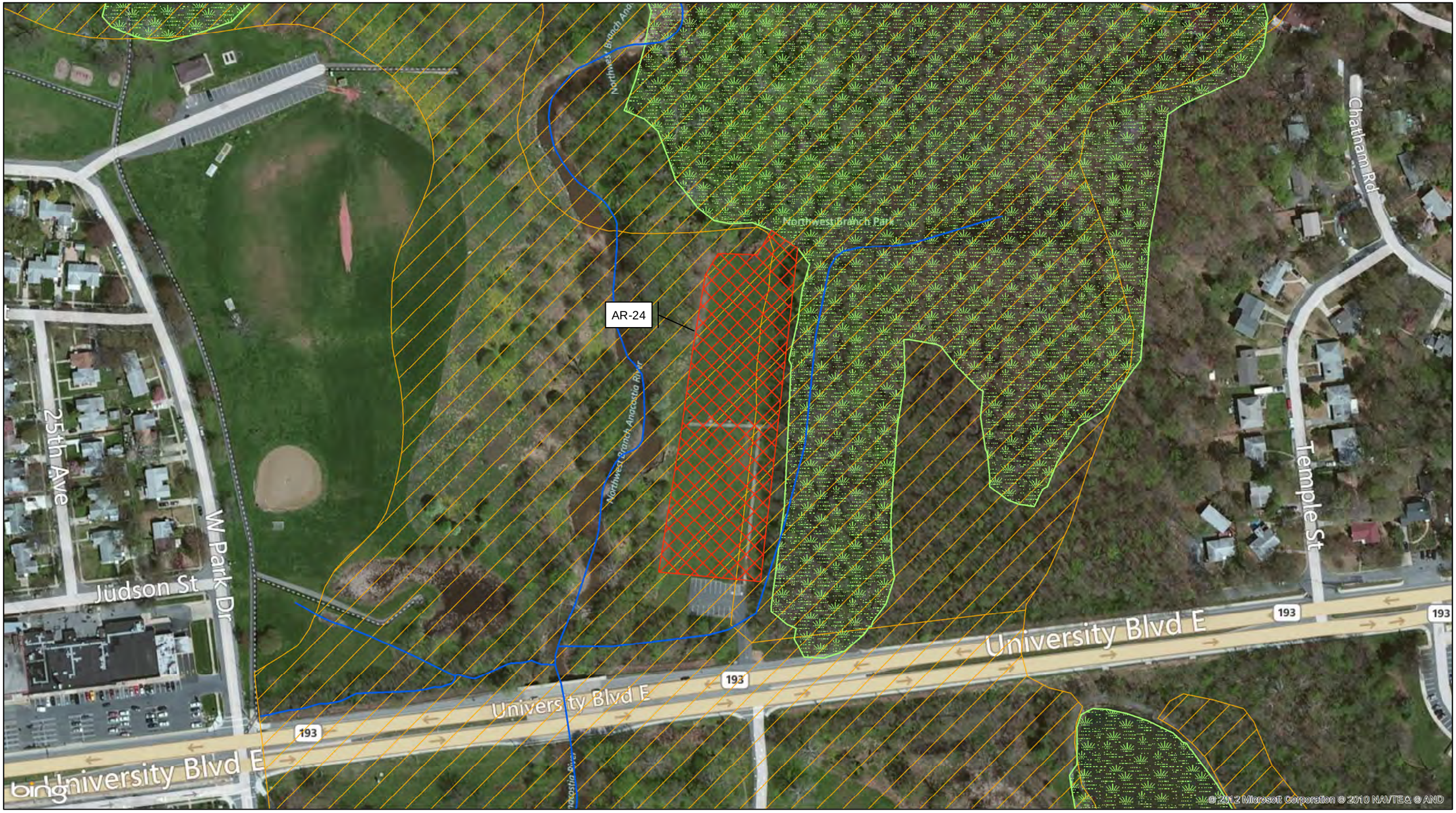
- Wetland Creation – Approximately 2.13 Acres

Restoration Objectives

- Flood Flow Alteration - enhancing floodplain connection and storage of flood waters
- Groundwater Recharge - increased retention time will allow for surface water infiltration
- Sediment/Toxicant Retention - sediment storage with connected floodplain
- Nutrient Removal - nutrient uptake/assimilation in floodplain and wetlands
- Stream Stabilization

Restoration Concept

- Ditch plugging to increase retention
- Minimal grading to intercept groundwater
- Removal of parking lot to reduce impervious surface



Purple Line

- Potential Stream Sites
- Streams
- 2" Contours
- Potential Wetland Sites
- DNR/NWI Wetlands
- Hydric Soils

N

1 in = 150 feet

0 75 150 300 Feet

ASSOCIATED SITE ID:

AR-24

Purple Line
Potential Mitigation Sites

Adelphi Manor Archery Range

November 2012

Purple Line Project
Potential Wetland and Stream Mitigation Site on Bel Pre Creek
(AR-102)

Existing Conditions Summary

Location Information

County: Montgomery
Watershed: Northwest Branch
Coordinates: 39°04'13.59"N / 77°01'50.34"W **USGS Quad:** Kensington
Location: Confluence of Bel Pre Creek and Northwest Branch, north of intersection of Randolph Road and Kemp Mill Road, Glenmont, MD
Property Ownership: Public (Maryland-National Capital Park and Planning) and Private (Winchester Homes)
Constraints: Future development plans

Site Conditions

Parcel Area: 107.56 Acres **Existing Land Use:** Forest, Open Land
Landscape Position: Stream Valley **Adjacent Land Use:** Residential, Forested
Drainage Area: 2,880 Acres
Habitat Location: Contiguous to wetland/upland forest > 100 Acres
Mapped Soils: Hatboro silt loam; Brinklow-Blocktown channery silt loams
Mapped Wetlands: NWI and MDNR wetlands mapped on site
Green Infrastructure: Hub and Gap Green Infrastructure adjacent to site

AR-102 is located on Bel Pre Creek at the confluence with Northwest Branch, north of the intersection of Randolph Road and Kemp Mill Road. The 2,880 acre drainage area upstream of the reach is approximately 37% impervious. AR-102 has poor bank stability, is disconnected from the floodplain, and has a primarily forested riparian area. Based on 2002 data collected by MDEP, the reach has good habitat, a fair benthic community, and a fair fish community. The site presents multiple mitigation opportunities for the Purple Line project. Opportunities include wetland creation north of the stream (dependent on future development plans) and stream restoration/stabilization on Bel Pre Creek.

Summary of Opportunities

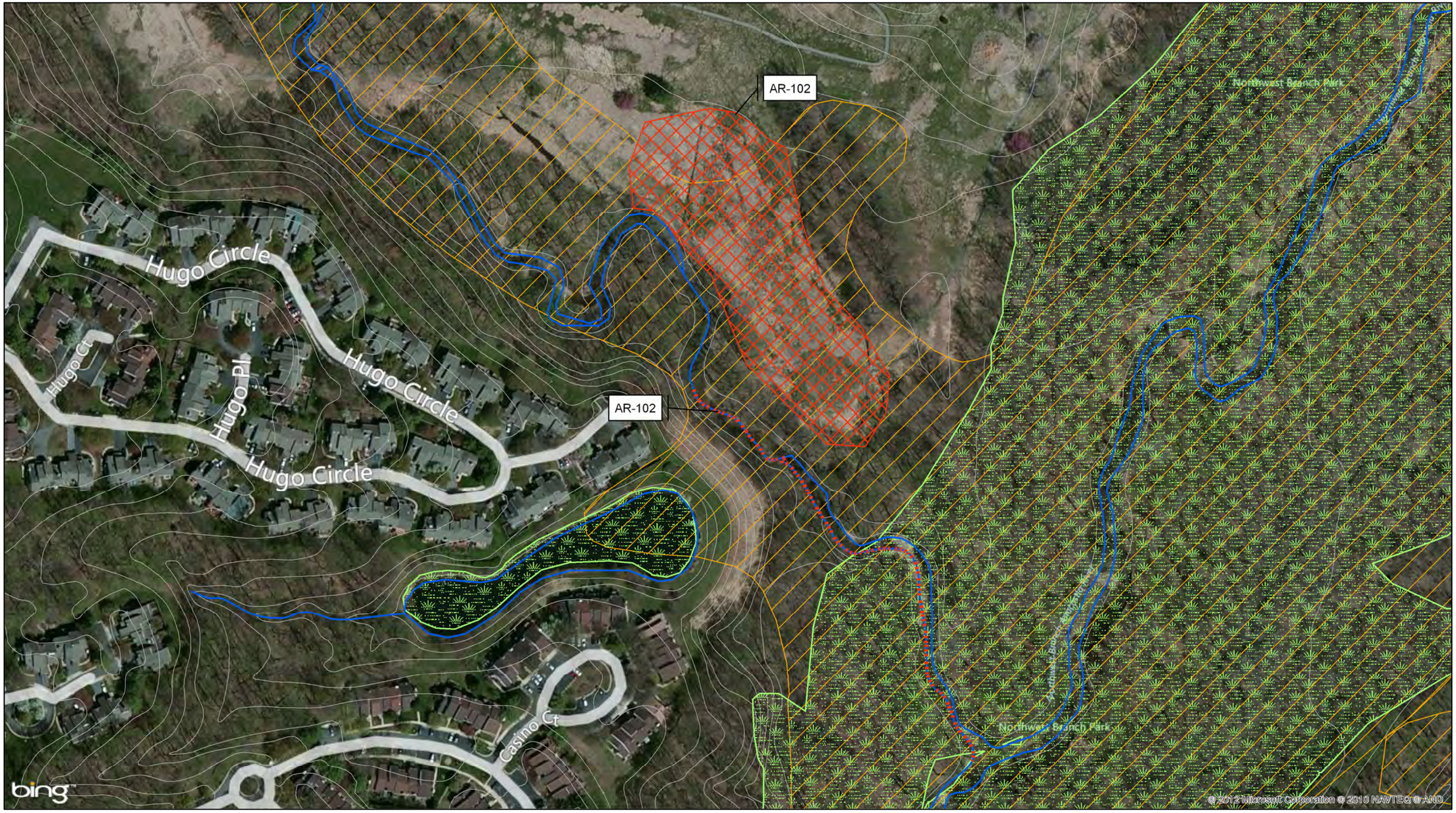
- Wetland Creation – Approximately 2.79 Acres
- Stream Restoration – Approximately 1,500 Linear Feet

Restoration Objectives

- Flood Flow Alteration – enhancing floodplain connection and storage of flood waters
- Reconnecting the stream to the floodplain
- Reducing bank erosion and in-stream sedimentation
- Enhancing the riparian buffer
- Enhancing the habitat conditions and the benthic and fish communities

Restoration Concept

- Minimal grading and the plugging of a ditch on the east side to create a floodplain wetland
- Floodplain creation to provide energy dissipation of erosive flood flows, reduce erosive shear stresses, reduce channel incision, and increase infiltration and groundwater recharge
- Bank stabilization to provide energy dissipation of erosive flood flows, reduce erosive shear stresses, and reduce bank erosion and in-stream sedimentation
- Riparian buffer plantings
- Installation of woody debris and other types of in-stream cover and gravel channel material to enhance the benthic and fish habitats and communities



Purple Line

Potential Stream Sites
Streams
2" Contours
Potential Wetland Sites
DNR/NWI Wetlands
Hydric Soils

N

1 in = 150 feet

0 75 150 300 Feet

ASSOCIATED SITE ID:

AR-102

Purple Line
Potential Mitigation Sites

Bel Pre Creek

November 2012